DOCUMENT RESUME

ED 381 955 EC 303 902

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TITLE COILS: The Co-Taught Integrated Learning System Program.
PUB DATE Feb 95
NOTE 28p.; Paper presented at the National Conference of the American Association of School Administrators (New Orleans, LA, February 10-13, 1995).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; *Computer Assisted Instruction; Courseware; *Disabilities; High Schools; Inclusive Schools; *Integrated Learning Systems; Mainstreaming; Program Development; Program Evaluation; Program Implementation; *Regular and Special Education Relationship; *Team Teaching
IDENTIFIERS Boyne Public Schools MI

ABSTRACT

This paper describes the COILS (Co-taught Integrated Learning System) program at Boyne City (Michigan) High School. The program utilizes the sequentially based computer programs of the Integrated Learning System (ILS) as well as the co-teaching model to integrate special education students into regular classes in the areas of English, Applied Algebra, Applied Geometry, and U.S. History. The process of developing the program and expanding inclusionary practices from the elementary and middle school levels to the high school level is summarized. Definitions of inclusion and co-teaching are offered as well as a listing of the benefits of inclusion. Guidelines for preparing to implement inclusion and co-teaching are provided, followed by a discussion of the integrated learning system, which involves a management system, extensive courseware, and the instructional models involved in implementation. Suggestions are offered for choosing an ILS system and associated hardware and for program implementation (physical layout, staffing, training, and scheduling). Preliminary evaluation data have indicated greater gains by special education than by general education students and positive evaluations by both teachers and students. (DB)

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COILS: THE CO-TAUGHT INTEGRATED LEARNING SYSTEM PROGRAM

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NOVEMBER 3, 1994

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I. INTRODUCTION

We believe we have quite an interesting presentation for you this afternoon. It is packed with information and we hope that it will help you look at the relationship between general education and special education in a different light.

This presentation will describe a program that is a different way of doing business. Although we believe our program could be implemented in most schools, there is the chance that it might not work for your school district, in the form we have presented it. However, it is our hope that you will leave with some information that will possibly improve the way you do business back home. By the conclusion of our presentation, we hope that we will have achieved the following:

1. Explain how the COILS Program was developed through research, concept development, and the collaborative decision making process.
2. Define the concepts of inclusion and co-teaching as they are integral components of the COILS Program.
3. Offer some ideas concerning the implementation of inclusion and co-teaching.
4. Discuss how General and Special Education collaborate in the co-taught inclusionary model.
5. Explain, in detail, exactly what an ILS is.
6. Discuss some points to be considered when purchasing an ILS and hardware.
7. Describe the COILS Program in detail.

8. Explain how the COILS Program was implemented.
9. Discuss the data compiled from the evaluation of the program.

OK, let's get started. Through the collaborative decision making model, we at Boyne City High School, have developed a program that infuses the powerful technology on an Integrated Learning System (ILS) into a co-taught, inclusionary model called COILS (Co-taught ILS Program). We instituted the practice of including most of our special education students into our general education classes (inclusion), with the special education and general education teachers co-teaching in the areas of English, Applied Algebra, Applied Geometry, and U. S. History. Along with the co-teaching model, we have implemented the use of the thousands of sequentially based computer programs that the ILS has to offer, as a major teaching tool.

II. THE SPECIAL EDUCATION CURRICULUM STUDY

A. RESEARCH AND DEVELOPMENT

Now, let's look at how the COILS Program came into being.

At Boyne City Public Schools, our District-Wide Curriculum Council appropriates funding for studies to be done in one or two curriculum areas per year. During the 1992-1993 school year, the Special Education Department was charged with the responsibility of examining the changing role of special education in Boyne City Public Schools and defining more clearly what that role should be

in the future. The committee was comprised of one administrator, one general educator from each of the elementary, middle, and high school levels, one special educator from each level, and a representative from the intermediate school district, for a total of eight members in all.

It was the committee's aim to develop a delivery system of special education services that would achieve the goal of meeting the needs of not only special education students, but also having beneficial effects for general education students as well. The committee believed that the scope of influence of special education should be broadened, while maintaining compliance with federal and state rules and regulations.

In light of several factors, the committee believed that it was imperative that alternatives to current special education practices be considered. The following were the main factors considered:

* Current inclusion practices on all three levels,
* Special education student population shifts with a large number moving from the middle school to high school,
* Personnel implications for the 1993-1994 school year. Because of the larger numbers of SPED students in the high school another SPED teacher was needed.
* And current trends in education, mainly with technology becoming an integral part of education.

The most pressing issue for us at this time, was the fact that we were receiving the second of several very large freshman classes into our high school. Our special education population was going to double within three years, and we believed that we needed to consider other alternatives other than simply hiring more personnel. At the same time, we realized that we still had to maintain compliance with state and federal rules and regulations. With these factors in mind, the committee agreed that the 1993-1994 school year was the most opportune time to initiate some decisive elements of change in special education. After doing an extensive search of the literature, the committee decided that the two main points of focus of any new special education delivery systems should consist of: (1) inclusion and (2) the implementation of an Integrated Learning System. It would be up to the committee members to decide what these new systems would look like in their individual buildings.

At this point, the members of the committee were responsible for developing a special education delivery system and sharing it with their own staff and building administrator for discussion and approval. These plans were then brought back for the committee's perusal and approval. After the new special education delivery systems were approved by the Special Education Study Committee, they were taken to the District-Wide Curriculum Council for its approval and recommendation to the superintendent of schools. Finally, the recommendation was sent on for Board approval.

B. THE RECOMMENDATION

On both the elementary and middle school levels, it was decided to maintain existing inclusionary practices along with the use of resource rooms and categorical rooms. In addition, small ILS's would be implemented in a lab setting, in both buildings.

In the high school however, a dramatic break from past practices would be made. The existing categorical program would remain intact, operating largely as a self-contained classroom for the more severely impaired. The resource room program however, would undergo a massive transformation from a combination of inclusion and pull-out programing to a totally inclusive thrust. Not only would all resource room students be included in general education classes, but all of these classes would also benefit from the infusion of the powerful technology of an Integrated Learning System (ILS). This of course, was to become the COILS Program.

Before we go into any great detail about the program, it is important to discuss inclusion and the co-teaching model so we have a common definition from which to work. Also, we will establish for you, a sense of how we established our co-taught inclusionary model over the course of the past three years.

III. Inclusion and Co-teaching

A. What Are Inclusion and Co-teaching?

1. Definitions

So, how do we define inclusion and co-teaching?

We view inclusion as one of many ways of providing special education services for those individuals diagnosed as needing academic support due to a handicapping condition. It is the practice of "including" the special education student in specific general education classes with academic support provided within those classes. The special education student is assigned to and is a member of this class.

Co-teaching is an instructional process which can be used to implement inclusion. It refers to the practice of a general education and a special education teacher sharing responsibilities in a general education classroom with both teachers being involved with the education of all students in the inclusionary classroom.

With inclusion, the special education students are scheduled into general education classes with the rest of their peers. In academic areas where these students are diagnosed as experiencing difficulties, they receive the support of both teachers in the co-taught classroom. With a lower student/teacher ratio, all students have greater access to a teacher for extra guidance and support.

In Boyne City, we have developed the philosophy that inclusion is a part of a continuum of special education services. It represents the least restrictive environment in which to provide special education support. When we look at inclusion, we do not regard it as a delivery system that should be used for all

handicapped individuals. All too often, it does not offer enough support for the more severely handicapped individual. To place these students into inclusionary classes is unfair to the special education students, the general education students, and the general education teacher. Individual education plans(IEP's) should be made to fit the student rather than trying to "fit" the student to the program.

2. Benefits

When administered in the proper manner, inclusion has some real benefits:

1. There are many general education students who have definite academic needs, but do not qualify for special education services. These are the "grey area kids who fall through the cracks" that we're always hearing about, but somehow don't seem to meet their needs. With inclusion however, these students can come out big winners. They are able to take advantage of such things as the increased teacher contact time with either the special or general educator and all the other benefits the inclusionary classroom has to offer.

2. Another benefit offered by inclusion, is the more efficient use of the special education teacher. Far more students benefit from the instructional guidance that the special education teacher can offer. Instead of contact with only five to ten students per class period, he/she can interact with a whole classroom full of students. Simply put, more students benefit from special education services through inclusion and the school uses their personnel in a more productive manner.

3. Because the special educator is right in the general education classes along with the students, support is greatly simplified because the special education teacher knows exactly what the material and the assignments consists of.

4. Inclusion allows the handicapped individual to attend classes with their peers. Socially and behaviorally, this has had a major impact.

5. Inclusion can create an "extra" classroom in your building. Since the special education teacher has no need for a separate resource room, that classroom is free for other uses.

6. The teachers involved with inclusion become more productive and vibrant because of collaboration.

I would like to add a footnote here. It is imperative that special education students continue to receive the support services as outlined in their IEP's, no matter what type of program is offered. The school district is required by law to provide these services.

B. Preparing to Implement Inclusion and Co-teaching

1. Who Will Be Involved?

Now, let's take a look at how we implemented our inclusionary program.

The first question we asked ourselves was, "In which areas do handicapped students need support in?" Almost universally, English and math will be the two areas of greatest emphasis. This indeed was the case for us in the 1991-1992 school year in Boyne City. When inclusion was still in the planning phases, we

explained the concept and the program to our staff and asked for volunteers. Wanting to bring about change gradually because inclusion was new for everyone involved, we decided to start in the area of Freshman English with one English teacher co-teaching with the special education teacher. The following year, in the 1992-1993 school year, our inclusion program expanded to include Sophomore English with another English teacher volunteering to become involved with co-teaching. There is little doubt that having teachers volunteer to take part in the program has much to do with its success. Also in its favor, the concept, planning, and implementation of the program was teacher generated and had administrative backing and support. We have found that if we want educators to change the way they teach, it becomes much easier if they are given two things: 1) the reasons for making changes, and 2) the tools they need to make them.

2. Training and Planning

We had the teachers, they were ready for change; now we needed the training. Prior to and during the school year, the teachers involved were able to attend inservices concerning inclusion and co-teaching. Much information from teachers of other school districts already involved in inclusion was received at these inservices and through the literature. Being able to communicate with others already having experience in the field of inclusion and co-teaching helped immeasurably.

Scheduling and planning for the program took place with the teachers involved and the high school counselor. We tried as

much as possible to ensure that there was a normal balance in the ratio of students with disabilities and the general education students in the co-taught classroom. A heterogenous grouping was a goal for these classes with the largest proportion of the students operating within the average range of skills.

C. Responsibilities in Inclusion & Co-teaching

Determining what specific responsibilities will be handled cooperatively and which will be dealt with on a separate basis is a prerequisite for a successful, co-taught classroom. Both the special education and the general education teachers should be involved in the instructional process rather than delegating one to the rank of paraprofessional while the other operates as the teacher of the course.

Co-teaching is essentially a cooperative effort utilizing the best of what two educators have to offer a classroom full of students. This includes curricular strengths, teaching techniques, classroom management styles, and personalities. One of the greatest benefits of co-teaching is that it allows teachers to collaborate in the educational process, rather than operate in isolation as has been the case for so many years.

The general educator accepts the responsibility for overseeing the curriculum and instructional goals of the course and also develops the course content and lessons that will be taught. It

is the responsibility of the special educator to monitor the students with disabilities and to guarantee that the goals and objectives decided upon at the IEP (Individual Education Program) meeting are being facilitated. It is also the responsibility of the special education teacher to make accommodations to meet the individual needs of the students needing academic support.

There are several responsibilities that both educators have in common and will address cooperatively. Among these responsibilities are: grading of student work, management of the classroom and discipline, communicating with parents, the instructional process, and planning the daily lessons. The co-teaching teams that operate the most efficiently are those that utilize the strengths of each member of the team to their fullest. The educators should allow their colleagues to make the most of their "strong suit" so to speak, for the benefit of the students and teachers alike.

For example, Tom has a background in history and enjoys teaching it. When the Freshman English classes are studying historical fiction, this is a unit where the English teacher (who has no great love for history) draws on his expertise in the subject and agrees to have him teach the unit.

Another example is in the area of teaching modalities. Sometimes one teacher has a different method of teaching certain concepts and shares these methods with his/her partner. This is one of the strengths of co-teaching, the potential for the free-flow of

ideas concerning curriculum and classroom management between the co-teaching partners is always there.

III. The Integrated Learning System (ILS)

A. What Is An ILS?

1. Definition

With the concepts of inclusion and co-teaching addressed, let's turn our attention to the ILS. An integrated learning system or ILS is a dynamic instructional tool which consists of a comprehensive bank of curriculum software in reading, math, writing, science, and social studies that is sequentially based. The system literally contains thousands of activities or programs that meet the individual needs of any student in the classroom. All of this software is controlled by management software which keeps track of and records all work done on the system. Each student has his/her own personal file from which they do their work.

2. Components of an ILS

The first component of an ILS is the management system. This management software has the ability to allow teachers to individualize instruction for students and report on student progress on the system. It is the administrative arm of the ILS. It is used to:

* Enroll students in the system,
* Create, modify, and assign activities to groups or individuals,
* Generate and print status, performance, enrollment,

and test result reports.

Using the management system, the teacher can control all of the software, administer to the everyday academic needs of the students, and monitor student progress. As needs change, the teacher managing the system can manipulate the software and customize it to meet the emerging needs of a class, group, or individual more precisely.

The second main component of an ILS is the courseware. These are the actual computer programs that make up the activities that the students complete. Two instructional models were used to utilize the courseware, the diagnostic/prescriptive model or the objective-based model.

The diagnostic/prescriptive model places the emphasis on the ability of the individual student when creating the ILS assignments. In this approach, the plan is to set up activities that meet the specific academic needs of each individual student in the class. Based on the students' strengths and weaknesses, the diagnostic testing programs in the system establishes a specific computer curriculum for each student to complete. When the students work on the computers, each student would be completing assignments which would be tailored to meet his/her needs in that specific subject area. The great benefit of this of course, is that you could literally have every student in a classroom working at a different level at the same time. It is an excellent source of remediation.

The second major way to utilize the software, is to manipulate the activities in such a way as to correlate them to the concepts that are being taught in the classroom. This is known as the objective-based model, where the content and objectives of the course are the driving factors in the design of the computer assignments. For instance, if a unit on finding the volume of three-dimensional objects is being taught in geometry class, the manager of the ILS can design an on-line assignment dealing with that specific concept for completion on the computers. In this way, the learning which took place through lecture, presentations, and book work, is being reinforced by the work being done in the computer assignments on the ILS. Whether the diagnostic/prescriptive model or the objective-based model is used, depends on the goals of the program and the courses being taught.

3. Operation of an ILS

Each student logs into the ILS and works in their own personal file. Depending on how the assignment is designed, the student will either have his/her work show up automatically on the screen, or a menu will give them a choice of the activities to be completed. When the work is done, the time it took to complete the work and the scores for that work are recorded in the system so that each student's progress can be monitored. A "bookmark" is automatically placed in a student's assignment when they log-out. This enables the user to interrupt his/her work, log-out, and log back in and resume work at exactly the same

point where they had left off. The ILS always "knows" where each student is, in which assignments they are currently working, and how well they are performing. This information then, is available to the teachers in the form of computer generated reports.

B. Choosing an ILS and Hardware

1. What Are the Goals to Be Met?

When considering a purchase of an ILS, the most important questions to be addressed are the same as for any software purchase: "What does the software need to accomplish?" and "Who is the target population using the software?". The ILS that any school system purchases must meet the academic needs specific to the population that it is being purchased for.

Annual updates of the ILS software is another "must" that the manufacturer should offer. With these updates, the software is continuously improved so that it better meets the needs of the teachers and students. The best part of this type of arrangement is that the software doesn't become obsolete, because it is constantly being updated. These updates are then loaded onto the system by the system's manager.

Equally important with "which" ILS a school system purchases is "whom" they purchase it from. This is true because extensive training and support is inseparable from the successful implementation of any ILS. Teachers using the ILS must have the proper initial training and constant follow-up support with

educational consultants and systems engineers, or it will be a very frustrating year for all concerned. The productivity of the teaching staff and the students will be greatly depressed. If an ILS manufacturer cannot offer extensive support and consultation services, it should not even be considered as a candidate.

When the decision concerning hardware is going to be made, a few common sense points should be considered. One, buy quality. Getting a "great deal" on computers will quickly turn sour if the computers are not "quality" machines. Secondly, try to buy machines from one of the major manufacturers that have an established record of providing a good product. Third, be absolutely sure that arrangements are made for the maintenance of the machines being purchased. There's nothing worse than having a classroom full of students sitting in front of computers that are inoperable. When computers become an integral part of any curriculum, they have to be "up and running". Extended and frequently recurring "downtime" is disastrous to an educational program. When hardware problems are encountered it is imperative to have the capability of having the machines quickly and efficiently serviced. Lastly, purchase machines that that have a greater capability than that which you will presently need with your program. New editions of software are constantly demanding more powerful machines on which to operate. In the long run, money will be saved when the computers will not need to be upgraded for several years, to meet the demands of more sophisticated software.

2. Making the Decision

When the implementation of an integrated learning system is in its formative stages, its success is already being decided. If the decisions concerning whether or not to implement an ILS, or what kind of ILS to purchase, or which hardware to buy, are all made on the administrative level, the chance that the program will be a true success is greatly diminished. It is imperative that those teachers who will be responsible for the education of the targeted student population, be involved with the decision making concerning these purchases. They are knowledgeable about the content of the courses being taught and will be in a better position to decide whether or not the software will correlate with the existing curriculum. Before any decisions are made though, a thorough search of the literature should be made along with a study of the products and the ILS manufacturer's training and support policies.

The ILS manufacturers should bring their products in and let the teachers actually use them. We were fortunate enough to have them bring in a total working system which gave our teachers the opportunity to see everything first-hand. Over a period of a few days, we were able to get a "feel" for the system and a better idea of how appropriately it would meet our specific needs.

Another excellent source of knowledge is to visit sites that are currently using the different products available. When compared to the manufacturer, the customer may have a very different

perspective of the product and how it meets their expectations. The manufacturer should be a good source of names of school districts currently using the product.

Good, sound decisions can only be made through the acquisition of knowledge. Through the collaboration of administrators and educators, those decisions can be made based on knowledge to build a program that all can take ownership in.

IV. The Co-taught Integrated Learning System Program - COILS

A. What Is Coils?

Now, let's look at the COILS Program in detail. As the name implies, the COILS Program consists of classrooms that utilize the precepts of the co-teaching model in conjunction with an integrated learning system. In the COILS classroom, the general and special educators co-teach in a supportive environment, where all students receive the benefits of greater teacher contact time and the technology that the ILS has to offer.

B. How Was it Implemented?

1. Physical Layout

There are two classrooms in Boyne City High School that are equipped to operate within the COILS Program. These two classrooms are adjacent to each other and are adjoined by a door. The student workstations line both sides of the common wall dividing the two COILS classrooms. This saves on cabling and installation costs. There are also 15-18 desks in each room facing the opposite direction toward the blackboards. This is

where the textbook portion of the courses are addressed. Lectures, book work, board work, discussions, and group instruction take place here, while individual computer work is being completed at the workstations at the back of the room. Typically, half the class is involved with group instruction while the other half is completing work on the computers. It is important to note, that the ILS does not supplant the existing curriculum, rather, it is a teaching tool that is used to help students achieve the objectives of each course.

For those of you who are interested in the technical aspects of the ILS: the hardware in each classroom consists of twelve IBM EduQuest Model Forty computers, each having 486sx 25Mhz processors with 4MB of RAM. These machines are powered by an IBM 95xp server with a 486dx 50Mhz processor with 1 GB hard storage. Both rooms are equipped with a printer and data protection is handled with a tape backup.

2. Staffing

As was discussed earlier, all teachers working in the COILS Program are volunteers. They tend to be innovative, flexible, and vibrant people to begin with, and this lends itself towards the program's success. When the program was still "on the drawing board" the staff was presented with an overview of the COILS Program and staffing needs were discussed. The teaching positions that needed to be filled were for: Freshman, Sophomore, and Junior English, Applied Algebra, Applied Geometry, and U.S.

History. Luckily, there were more than enough volunteers to fill the positions. They deserve a lot of credit because they were willing to take a chance and get involved with an educational program that was going to be quite different from anything that they had ever attempted before. Some of these teachers had previously been involved with the co-teaching model, while others had not.

Staffing of the two COILS classrooms is unique in that there are three teachers assigned to the two rooms. There is a general education teacher who is always in his/her assigned classroom, while I, the special education teacher, "float" between the two classrooms throughout the class period, as the needs dictate. Again, the general education teacher is mainly responsible for curriculum and course content, while my primary responsibility is for the students with disabilities and managing the ILS. There are also the shared responsibilities that were mentioned before during the discussion concerning co-teaching.

3. Training

Since I was to be the "manager" of the system, my training in the operation of the system was most extensive. I was fortunate enough to be able to receive an entire week of training even before we had purchased our ILS. While we were still studying the whole concept of an integrated learning system, I was invited to another site where they were receiving their initial training. This enabled me to develop a concrete opinion of the product and to decide how well it would fit into the vision we had for our

program.

After the ILS was purchased and installed, the manufacturer provided two full days of on-site training for every teacher involved in the program. This was followed by ten additional days of consultations and inservice to facilitate the implementation of the ILS and to learn how to most effectively make use of the software in our program. These ten days were again, on-site visitations by a curriculum and implementation consultant from the manufacturer. These consultations were invaluable in helping us to establish a firm foundation from which we were able to effectively delivery quality computer-based education to our students.

Along with the consultant services, the services of a site system engineer were also available. He was responsible for the ILS installation on the computer network and for future trouble-shooting and update installations. The engineer was also available by phone for consultations. A telephone support line was also provided by product support which is available every school day to answer questions concerning the "how to" aspects of the software. This is an 800 number and the service it provided was quick and efficient and many times, was a "lifesaver".

The quality of any product is of course a major concern before it's purchased. The service and support one receives afterwards is equally important. To attempt a project of this complexity and magnitude without the proper training and support would be beyond comprehension. It should be an integral part of any

system.

4. Scheduling

When building a program like this, scheduling brings everyone back to reality and anyone who has ever been involved in creating a schedule can attest to this. A study of the course needs of the special education students determined which courses were going to be taught in the COILS Program. These courses were: Freshman, Sophomore, and Junior English, Applied Algebra (our entry level math course), Applied Geometry, and U.S. History. Our major consideration when creating the master scheaule, was that no more than two COILS classes could be scheduled at the same time. With this in mind, the schedule was made.

The first students to be scheduled into the COILS classes were the special education students, as these courses were required by their Individual Education Plans. After these students were scheduled, the classes were filled at random with general education students who had registered for those classes. With twelve computer workstations in each of the two classrooms, class limits of 24 were established to allow for the half on/half off method of utilizing the system. This way, each student was guaranteed a minimum of half the class period for computer work.

V. Evaluation

A. Has COILS Been Effective?

1. The Data - Student Test Results

An integral part of every good program is an evaluation of its

effectiveness with the populations for which it was designed. The data that were decided to be of importance were: 1) pre- and posttest data, 2) systems data, 3) a teacher attitude survey, and 4) a student attitude survey. The attempt was made to try to develop a well rounded evaluation instrument that would blend the objective assessment of the program with the subjective. This was not a scientific study, as no control group was established due to legal ramifications.

Due to the fact that last year was our first year of operation, pre- and posttesting devices were not in place until the second semester. Pretesting in the two major areas of reading and mathematics took place during the fourth week of January, 1994, while posttesting was administered during the first week of May, 1994. While the range of time between the two testing dates was relatively short, three and one half months, it was believed that it was necessary to gather some baseline data. With this hard data, a more complete evaluation of the program could be made. The reading test consisted of a vocabulary subtest and a reading comprehension subtest, while problem solving and computation were the two subtests administered in the area of mathematics. In all areas, the data indicated that the students had recorded gains.

The diagnostic tests are divided into three levels, A,B, and C, with C being the most difficult. The reading scores indicated gains of 7% on Level A, 4.9% on Level B, and 5.9% on Level C. For mathematics, testing occurred on levels B and C, with gains of 8.4% and 5.5% respectively. These scores encompass the entire

population involved with the COILS Program.

When reading test scores of the special education population were studied in isolation, they revealed that students with disabilities recorded gains of 7% on Level A, 10.2% on Level B, and 11.3% on Level C, significantly higher than those of their general education peers. Mathematics test scores also indicated greater gains for the special education population with increases of 12.7% on Level B and 7% on Level C. Again, it should be kept in mind that these gains were all made over the relatively short time period of three and one half months.

Another area where the data were studied, was the levels of activities at which the students were placed in January and the level they had progressed to by May. Based upon the diagnostic test scores, the students had been placed in activities at specific levels of difficulty in each academic area. Reading consisted of four levels A-D, while mathematics consisted of six levels, A-C, K, L, and Algebra. A study of the data showed that more than 30% of the student population had improved at least one level in reading, while in mathematics, a full 43% had progressed enough to move up at least one level, if not two or more.

Subjective data collected through teacher and student surveys was also positive. According to survey results, teachers offered the following perceptions:

1) The ILS had a positive impact upon student learning,
2) Students' attitudes toward using computers were positive,

3) Teachers' attitudes toward using computers were positive,
4) Correlation with the curriculum and the ILS was good.

Data collected through student surveys indicates that the majority of students believed that:

1) Working with the computers was a positive experience,
2) Having more time with the computers in more subjects would be desirable,
3) The ILS had a positive effect on their learning,
4) The COILS Program was an effective mode of instruction.

A study of all the data collected showed that the COILS Program was indeed having a positive effect on the education of the students in the program.. Possibly the single, most gratifying finding in the evaluation was the fact that more than 90% of the students believed that learning in a COILS environment was the preferred model of instruction.

With the evaluation complete and the data collated, the cycle of creating a program had come full circle. Using the data collected from this evaluation, decisions based on knowledge would be made concerning any possible improvements in the program for the 1994-1995 school year.

VI. Conclusion

The COILS Program demonstrates that general education and special education students can thrive together in a co-taught inclusionary setting. The addition of the ILS into these

classrooms, creates an even more exciting environment in which to teach and learn. COILS has not solved all of our problems at Boyne City High School, and we still have much work to do. However, we believe that it is making our high school a better place for our students to learn.

Through the efforts of teachers and administrators working together on a new idea, some positive steps have been taken at Boyne City Public Schools. It was simply a case of people working with people rather than an individual making a decision in isolation. Everyone was able to take ownership in the COILS Program and make it a success.

With the world of computers being so fluid and ever-changing, and the mechanism of change built into the program, the future will definitely hold much excitement for our young people.